VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

2006 FISH TISSUE AND SEDIMENT MONITORING PLAN
WATER QUALITY STANDARDS & BIOLOGICAL PROGRAMS

April 2, 2006

Draft

Introduction

The Virginia Department of Environmental Quality (DEQ), Water Quality Standards and Biological Monitoring Programs, Office of Water Quality Programs is responsible for the design and execution of the Statewide Fish Tissue and Sediment Monitoring Program. This document provides information concerning the proposed stations for monitoring fish tissue and sediment during 2006 and the rationale for the station selections.

Objective

The objective of the Statewide Fish Tissue and Sediment Monitoring Program is to systematically assess and evaluate, using a multi-tier screening, water bodies in Virginia in order to identify toxic contaminant(s) accumulation with the potential to adversely affect human users of the resource. A second objective of the program is to determine the presence of toxic chemical contaminants in the aquatic environment which have the potential to adversely affect the aquatic biological community. Data collected will be used to quantify human health risks and ecological/environmental health conditions. In addition, follow-up studies are conducted when problems are found and/or when recommended by the Virginia Department of Health (VDH) through a Memorandum of Agreement between VDH and DEQ. VDH uses data generated by this program to assess the need for issuing or modifying fish consumption advisories. The DEQ employs the data to assess water quality for 305(b) Report /303(d) Listing and Total Maximum Daily Load (TMDL) determinations.

Sampling Design

The water bodies of Virginia are separated into fourteen river basins or subbasins (see Table 1). In the past, fish tissue and sediment were sampled in all fourteen of the river basins within a five-year cycle following procedures stated in the DEQ Quality Assurance/Quality Control Project Plan for the Fish Tissue and Sediment Monitoring Program (1998). In April 2000, the General Assembly amended section 62.1-44.19:5 of the code of Virginia which instructed the DEQ to sample all of the river basins within a three-year rotational cycle contingent upon available funding. Between 2001 and 2003 a three year rotation was employed, but due to funding cuts and staff reductions after 2003, the program has reverted back to the original five year cycle.

Table 1. River Basins in Virginia		Basin Code
1)	Potomac River Subbasin	1A
2)	Potomac River-Shenandoah River Subbasin	1B
3)	James River	2-
4)	Rappahannock River	3-
5)	Roanoke River	4A
6)	Yadkin River	4B
7)	Chowan-Chowan River Subbasin	5A
8)	Chowan-Albemarle Sound Subbasin	5B
9)	Tennessee and Big Sandy River-Big Sandy Subbasin	6A
10)	Tennessee and Big Sandy River-Clinch Subbasin	6B
11)	Tennessee and Big Sandy River-Holston Subbasin	6C
12)	Chesapeake Bay, Atlantic Ocean, and Small Coastal	7-
13)	York River	8-
14)	New River	9-

Two river basins have been selected for the 2006 routine sampling season: the Rappahannock River Basin (last sampled in rotation 2001), and the Roanoke River (last sampled in rotation in 2002). In addition to the "routine" sampling stations located in the Rappahannock and Roanoke River Basins, the sampling stations list includes 16 stations in the Blackwater River watershed and 9 stations in the Nottoway River Watershed of the Chowan River Basin to supplement mercury contamination in tissue data for that watershed. In addition, several citizen requested stations are located in the in the following watersheds: 1 in the Potomac River (Lake Montclair); 1 Atlantic Ocean Small Coastal (Raccoon Creek) and 5 in the York River (Lake Anna). A total of 101 fish tissue and sediment sampling stations have been selected. The sampling stations list includes the routine monitoring stations and special requests. All of the sampling sites are ranked from 1 to 2 with 1 being the high priority and 2 the low priority. The higher rank is based on known or potential water quality problems at the sampling location, special requests by other DEQ units, VDH or citizen groups, and/or if the sampling location is a relatively intensive resource for recreational or commercial fishing. Extensive effort will be made to complete all of the stations selected, but if equipment problems and/or severe weather impact(s) the sampling schedule, or if there are unanticipated budget reductions or staff limitations, priority will be given to the higher ranked stations.

Most of the sampling sites are freshwater; however, several are brackish or saltwater locations. The samples that will be collected at each freshwater station include one sediment sample and three to five tissue composite samples (5-10 individuals of the same species per composites) consisting of fish species that are typically consumed by humans. Samples will include at least one bottom feeder (e.g. catfish sp.), which may be highly exposed to chemically contaminated sediments compared to other species, and two to four upper and middle trophic level feeders (e.g. bass and sunfish species, respectively.), which may be exposed to chemical contaminants via biomagnification.

Collection of targeted species for tissue analysis at the brackish and saltwater sites may be problematic since only 10-15% of the fish and shellfish species at the stations are year-round residents and few of the resident species are typically consumed by humans (Murdy et. al. 1997). It is likely that sample collection techniques will yield several species of migratory fish and shellfish that are consumed by humans and a few resident fish species that are not consumed by humans. Contaminants found in migratory fishes may not reflect local pollution problems but may be used to calculate human health risks from consumption. Contaminants found in sediment and resident fishes may be used to identify local inputs of bioaccumulative contaminants. Therefore, the samples that will be collected at each brackish or saltwater station include one sediment sample and three to five composite samples (5-10 individuals of the same species per composite) consisting of an edible migratory, an edible or non-edible resident, and an edible or non-edible bottom species. For a detailed list of species that will be targeted at each brackish or saltwater station (see Table 2).

The entire data set should help determine if any unacceptable human health risks are associated with fish consumption, and if local inputs of bioaccumulative contaminants are in tissue and/or sediment at levels of concern. Samples collected will be analyzed for metal and/or organic contaminants by the College of William and Mary-Virginia Institute of Marine Science.

Station Selection Criteria

The stations in each basin have been selected to produce site specific conclusions and provide spatial coverage of the entire basin. The following criteria were used to select the 2006 sampling stations:

- Historical Data Review
- Spatial Distribution
- Specific Water Quality Problems
- Major Tributary Status
- External Request from other VADEQ offices, State Agencies, and Citizen Groups
- Point Source Input
- Nonpoint Source
- Major Fishery

The attached references were used in selecting the sampling stations. The water body ID number, station number, priority rank, river mile, latitude, longitude, county, criteria for selection, and corresponding USGS topographical survey map name for each proposed sampling station are provided (see *T*able 3). Summary maps showing the location of all of the proposed sampling stations are attached (see figures1-7).

Sample Collection and Reporting

Fish tissue and sediment samples will be collected in the early spring through late fall, 2006. Analytical data for all of the samples should be received from the laboratory by *the end of* June 2007. The data will be tabulated as received and sent to VDH per an October 2000 Memorandum of Agreement between the VDH and DEQ. VDH will make an evaluation regarding potential human health impacts due to contaminated fish consumption and issue fish consumption advisories or bans as needed. DEQ will assess the data in the next 305(b) assessment cycle.

The tabulated data will also be sent to the water quality monitoring managers for 305(B) reporting and review and posted on the DEQ web site at: www.deq.virginia.gov/fishtissue/

Table 2. Target species at each of the brackish water or saltwater stations.

Migratory Fish (Normally consumed by humans)	Resident Fish (Some may not be consumed by humans)	Benthic Fish/Shellfish (Some may not be consumed by humans)
Striped Bass	White Perch	Oyster spp.
Spot	Yellow Perch	Clam spp.
Atlantic Croaker	Killifish, Banded	Blue Crab
Weak Fish	Killifish, Striped	Summer Flounder
Black Sea Bass	Killifish,Rainwater	Smallmouth Flounder
Spotted Seatrout	Killifish, Marsh	Oyster Toadfish
Black Drum	Killifish, Spotfin	Hogchoker
Red Drum	Mummichogs	Tongue Fish
Silver Perch	Sheepshead Minnow	Channel Catfish
Northern Kingfish	Silverside, Inland	White Catfish
Southern Kingfish	Silverside, Rough	
Gulf Kingfish	Silverside, Atlantic	
Bluefish	Bay Anchovy	
Hickory Shad		
Alewife		
American Shad		
Blueback Herring		

Table 3. 2006 Fish Tissue and Sediment Monitoring Stations Draft

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ROANOKE RIVER BASIN

SITE #	WBID	RIVER MILE	STATION	PRIORITY	LAT	LONG	TOPO NAME	COUNTY	PROBLEM
1	W-L28R	4ABOR012.18	Big Otter River near Rt. 682 gaging station	1	N37 12.512'	W79 18.204'	Lynch Station	Campbell	PCBs in Tissue 1999 Data, Pb detected in Redhorse Sucker 1999
2	W-L10L	4ABWR019.75	Blackwater River near Smith Mountain Lake	1	N37 02.643'	W79 41.832'	Moneta SW	Franklin	PCBs in Tissue 1993 Data
3	C-L37R	4ACUB010.96	Cub Creek near Rt.40 gaging station	1	N37 04.764'	W78 45.809'	Aspen	Charlotte	PCBs in Tissue 1999 Data
4	C-L75L	4AEAS001.20	Eastland Creek near Kerr Reservoir	1	N36 36.073'	W78 22.594'	Tungsten	Mecklenburg	PCBs in Tissue 1993 Data
5	W-L21R	4AGSF002.16	South Fork Goose Creek near Rt. 607 bridge, Montvale	1	N37 22.772'	W79 43.858'	Montvale	Bedford	Pb detected in Bluehead Chub 2002 Data
6	C-L38L	4AHTA003.26	Hunting Creek (Conner Lake)	1	N36° 55.451'	W78° 47.950'	Conner Lake	Halifax	Spatial Distribution, Major Fisheries
7	W-L26R	4ALOR007.94	Little Otter River near Rt.784, below Bedford	1	N37 17.603'	W79 27.346'	Goode	Bedford	Pb & PCBs in Tissue 1999 Data
8	W-L03R	4AMDL001.42	Mud Lick Creek near Grandon Road	2	N37° 15.118'	W79° 59.884'	Roanoke	Roanoke City	Spatial Distribution
9	C-L79L	4AMES007.54	Miles Creek (Lake Gordon)	1	N36° 41.423'	W78° 12.936'	South Hill	Mecklenburg	Spatial Distribution, Major Fisheries
10	W-L04R	4AMSN000.60	Masons Creek	2	N37° 16.562'	W80° 01.752'	Salem	Roanoke	Hg elevated 1999 Data Spatial Distribution
11	C-L75L	4ANUT001.50	Nutbush Creek near Kerr Reservoir	2	N36 33.129'	W78 19.437'	John H. Kerr Dam	Mecklenburg	PCBs in Tissue 1993 Data
12	W-L03R	4APBB000.63	Mill Creek (Paint Bank Branch Mill Race)	2	N37° 17.188'	W80° 05.294'	Salem	Salem	Spatial Distribution
13	W-L04R	4APEE001.04	Peters Creek, Roanoke at Shenandoah Ave. bridge	1	N37 16.777'	W80 00.287'	Salem	Roanoke City	PCBs in Tissue 2002 Data, Pb detected in Redbreast Sunfish 2002 Data, Hg, Pb, Cu in Tissue, Ag, Pb in Sediment Tingler Page M3-29, M4-18, M6-19, Va Ambient Monitoring Report 1999, Page 377
14	W-L18L	4APGG003.29	Pigg River near Leesville Lake	2	N36 59.303'	W79 29.787'	Pittsville	Pittsylvania	PCBs in Tissue 1993, Data Spatial Distribution
15	W-L02R	4ARNF013.60	North Fork Roanoke River	1	N37 13.020'	W80 16.636'	Ironto	Montgomery	Spatial Distribution As elevated 1999 Data, Pb detected in Green Sunfish 1999 data
16	C-L80L	4AROA004.54	Lake Gaston near NC-VA State Line		N36 32.885'	W78 07.038'	South Hill S.E.	Mecklenburg	PCBs in Tissue 2002, 1999, & 1993 Data, Hg in Tissue 2002, Major Fisheries
17	C-L75L	4AROA028.04	Roanoke River (Kerr Res. near Ivy Hill, Buoy 9)	1	N36 35.6002	W78 25.512	Tungsten	Mecklenburg	PCBs in Tissue 2002 & 1998 Data, Hg in Tissue 2002, Pb detected in Largemouth Bass 2002 Data
18	C-L75L	4AROA036.59	Kerr Reservoir near Clarksville	1	N36 37.479'	W78 33.016'	Clarksville South	Mecklenburg	PCBs in Tissue 1993

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SITE #	WBID	RIVER MILE	STATION	PRIORITY	LAT	LONG	TOPO NAME	COUNTY	PROBLEM
19	C-L40R	4AROA059.12	Roanoke River near Rt. 360, Clover	1	N36 49.663	W78 41.242	Clover	Charlotte	PCBs in Tissue and Sediment 2002 , 1998, & 1993 Data, VDH Advisory, Hg in Tissue 2002, Pb detected in White Bass 2002 Data, Pb detected in Striped Bass 2002
20	C-L38R	4AROA067.91	Roanoke River near Rt. 746	2	N36 54.933'	W78 44.413'	Saxe	Charlotte	PCBs in Fish Tisssue 1999 Data
21	C-L36R	4AROA097.07	Roanoke River near Brookneal	1	N37 02.313	W78 56.763	Brookneal	Halifax	PCBs, DDE, DDT, & Chlordane Fish & Sediment VDH Fish Advisory 2002, 2000, 1998 & 1993 Data, Hg in Tissue 2002, Pb detected in Spotted Bass 2002
22	C-L36R	4AROA108.09	Roanoke River near Long Island	1	N37 03.819'	W79 05.265'	Long Island	Campbell	PCBs in Tissue 1998 & 1993 Data
23	C-L30R	4AROA117.09	Roanoke River near Taber	2	N37 04.466'	W79 12.354'	Staightstone	Campbell	PCBs in Fish Tissue 1999 Data
24	C-L30R	4AROA129.95	Roanoke River near Rt. 29 bridge at Altavista	1	N37 06.294	W79 17.693	Lynch Station	Campbell	PCBs, Ag, Cr in Tissue, VDH Fish Advisory for PCBs 2002 & 1998 Data, 1990 305B Report, Page A-24
25	C-L19R	4AROA137.00	Roanoke River near Leesville Tail Race	2	N37 07.172'	W79 22.943'	Leesville	Campbell	PCBs in Tissue 1998 Data
26	W-L13L	4AROA140.66	Leesville Lake	1	N37 05.541'	W79 24.195'	Leesville	Pittsylvania	Spatial Distribution
27	W-L07L	4AROA175.63	Smith Mountain Lake near Rt. 122, Hales Ford bridge	1	N37 08.724	W79 39.991	Goodview	Franklin/Bedford	PCBs in Tissue 2002 & 1998 Data
28	W-L07L	4AROA196.05	Roanoke River near Hardy	1	N37 12.975	W79 50.278	Hardy	Franklin	PCBs in Tissue 2002, 1999, & 1993 Data, Hg in Tissue 2002, Pb in Tissue 1999, 1998 303D Listing Page A-155
29	W-L06L	4AROA199.20	Roanoke River just upstream Niagara Dam	1	N37 15.268'	W79 52.274'	Roanoke	Roanoke City	PCBs in Tissue 2002, 1999, & 1993 Data
30	W-L04R	4AROA206.80	Roanoke River near Rt. 11 bridge (Ghent Park)	1	N37 15.947'	W79 58.046'	Roanoke	Roanoke City	PCBs in Tissue 2002 Data
31	W-L04R	4AROA216.33	Roanoke River City of Salem below Koppers	1	N37 16.752'	W80 06.097'	Salem	Roanoke	PCBs in Fish Tissue 1999 Data, Spatial Distribution
32	C-L39R	4AROC005.35	Roanoke Creek near confluence with Twittys Creek @ Rt 612	2	N36° 55.843'	W78° 39.918'	Saxe	Charlotte	Spatial Distribution
33	C-L39R	4AROC011.75	Roanoke Creek near Rt. 619	2	N37° 00.241'	W78° 38.222'	Charlotte Courthouse	Charlotte	Spatial Distribution
34	W-L01R	4ARSF011.52	South Fork Roanoke River near Alleghany Springs	1	N37° 07.699'	W80° 15.971'	Ironto	Montgomery	1993 & 1999 Data ok, Spatial Distribution
35	W-L05R	4ATKR000.17	Tinker Creek near Rt. 24	1	N37 16.101	W79 54.258	Roanoke	Roanoke City	As elevated and PCBs in Tissue 2002 Data
36	W-L05R	4ATKR009.30	Tinker Creek near Rt. 11	1	N37° 21.358'	W79° 55.773'	Roanoke	Roanoke	Spatial Distribution, Hg inquiry
37	C-L39R	4ATWT009.63	Twittys Creek near SCS Roanoke Creek watershed dam #72A	1	N36° 59.479'	W78° 33.342'	Drakes Branch	Charlotte	Spatial Distribution
		RAPPAHANNOCK RIVER BASIN							
38	P-E22R	3-BLK002.54	Black Water Swamp (Pilkington Swamp) near Rt. 635	1	N38° 01.830'	W77° 04.472'	Loretto	Essex	Spatial Distribution, Hg inquiry
39	P-E24R	3-BRA000.05	Branham Mill Swamp upstream Rt. 360	1	N37° 56.983'	W76° 43.361'	Haynesville	Richmond	Spatial Distribution, Hg inquiry
40	P-E23R	3-CAT011.62	Cat Point Creek near Rt. 637 bridge Gaging Station	1	N38° 02.390'	W76° 49.614'	Montross	Westmoreland	Spatial Distribution, Hg inquiry

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41	P-E23R	3-CAT015.44	Cat Point Creek near Rt. 622 bridge	2	N38° 04.897'	W76° 50.768'	Montross	Westmoreland	Spatial Distribution, Hg inquiry
42	P-E20R	3-CLB000.50	Claiborne Run near Rt. 3 bridge	1	N38 18.172	W77 26.823	Fredericksburg	Stafford	2001 Data (PCBs in Am. eel) & Hg detected in fish tissue,Tingler Bull 583 1990 (As in sedi) p.M1-22,(Cu in sedi) M6-22, (Hg in Sedi) M3-25
43	P-E23L	3-CMR001.00	Chandler's Mill Pond	1	N38° 06.000'	W76° 50.500'	Montross	Westmoreland	Spatial Distribution, Hg inquiry
44	P-E26E	3-CRR001.38	Corrotoman River near Millenbeck	1	N37 39.934	W76 28.748	Irvington	Lancaster	2001 Data (Hg detected in tissue)
45	P-E26E	3-CTR000.19	Carter Creek near Weems	1	N37 39.155	W76 26.422	Irvington	Lancaster	2001 Data (Hg detected in tissue) Tingler Bull 583, 1990 (Hg in sedi) p.M3-25
46	P-E02R	3-GRT001.70	Great Run near Rt. 687	1	N38 38.568	W77 51.561	Warrenton	Fauquier	2001 Data (Hg detected in tissue) Tingler Bull 583, 1990 (Hg in sedi) p.M3-25
47	P-E20R	3-HAL000.57	Hazel Run near Rt. 17 bridge	1	N38 17.513	W77 27.423	Fredericksburg	Fredericksburg	2001 Data (PCBs in Am. Eel & Hg detected in fish tissue), 1992 305B Report (Chem. spill & Junk yard with contaminated soils near the site) p. 6.9-22
48	P-E23R	3-HOK003.61	Hoskins Creek near Rt. 659 bridge	1	N37° 55.533'	W76° 52.995'	Mount Landing	Essex	Spatial Distribution, Hg inquiry
49	N-E19L	3-MOT000.39	Motts Run Reservoir (Mine Run)	2	N38° 18.730'	W77° 32.817'	Salem Church	Spotsylvania	Spatial Distribution
50	N-E21R	3-MTC002.59	Mount Creek near Rt. 17 @ Burma Road		N38° 11.906'	W77° 17.477'	Rappahannock Acade	Caroline	Spatial Distribution, Hg inquiry
51	P-E23R	3-MTL004.82	Mount Landing Creek near Rt. 716		N37° 57.744'	W76° 56.190'	Mount Landing	Essex	Spatial Distribution, Hg inquiry
52	N-E09R	3-MTN005.79	Mountain Run near Rt. 620/672 bridge	1	N38 27.626	W77 48.824	Germanna	Culpeper	2001 Data (PCBs in Am eel & Hg in Tissue) Tingler Bull 583, 1990 (Hg in sedi) p.M3-27
53	N-E09R	3-MTN022.21	Mountain Run near Fauquier Rd in Culpeper	2	N38° 28.556'	W77° 59.103'	Culpeper East	Culpeper	Spatial Distribution
54	P-E22R	3-OCC010.47	Occupacia Creek near Rt. 17	2	N38° 02.650'	W77° 00.345'	Loretto	Essex	Spatial Distribution, Hg inquiry
55	P-E22R	3-PEE004.46	Peedee Creek near Rt. 640	2	N38° 07.251'	W76° 58.516'	Champlain	Westmoreland	Spatial Distribution, Hg inquiry
56	P-E23R	3-PIS004.79	Piscataway Creek @ Rt. 17	2	N37° 52.285'	W76° 50.773'	Dunnsville	Essex	Spatial Distribution, Hg inquiry
57	P-E23R	3-PIS009.24	Piscataway Creek @ Rt 691	2	N38° 28.556'	W77° 59.103'	Mount Landing	Essex	Spatial Distribution
58	P-E18R	3-RAP006.53	Rapidan River near Rt. 610 bridge	1	N38 21.578	W77 41.118	Chancellorville	Spotsylvania	2001 Data (Hg detected in fish tissue), Tingler Bull 583, 1990,p.M1-22 (As in Sedi), M3-25 (Hg in Sedi)
59	P-E26E	3-RPP008.42	Rappahannock River near Rt. 3 bridge	1	N37 37.375	W76 25.466	Wilton	Middlesex	Spatial Distribution, 2001 & 1995 Data, ok, Tingler Bull 583, 1990, p. I-13, I-14,(Cu) M6-8,(DDT) O3-10,(Pb) M4-19
60	P-E25R	3-RPP029.42	Rappahannock River near Tarpley Point	1	N37 46.570	W76 41.203	Morattico	Richmond	2001 Data (Hg detected in fish tissue), Tingler Bull 583, 1990 (Cu in sedi) p.M6-22, (Hg in sedi) M3-26
61	P-E23R	3-RPP042.12	Rappahannock River near Jones Point	1	N37 55.206	W76 49.295	Tappahannock	Richmond	2001 Data (PCBs in Croaker & Hg in tissue) Tingler Bull 583, 1990, (As), p.M1-22, (Hg) M3-26
62	P-E22R	3-RPP056.20	Rappahannock River near Rt. 622 Carters Wharf	1	N38° 04.31'	W76° 55.60'	Champlain	Essex	Spatial Distribution, Hg inquiry
63	P-E22R	3-RPP070.00	Rappahannock River near Devils Elbow near Bouy 52	1	N38° 08.546'	W77° 04.724'	Rollins Fork	Westmoreland	Spatial Distribution, Hg inquiry

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64	P-E21R	3-RPP080.19	Rappahannock River near Rt. 301 bridge	1	N38 10.490	W77 11.311	Port Royal	Caroline	2001 Data (PCBs in Blue Catfish & Hg in tissue) Tingler Bull 583, 1990, (Hg) p.M3-26
65	P-E20R	3-RPP107.33	Rappahannock River below Fredericksburg	1	N38 16.966	W77 26.521	Fredericksburg	Stafford	2001 Data (PCBs in Carp & Hg in tissue)
66	P-E19R	3-RPP128.73	Rappahannock River, end of Rt. 683	1	N38 24.899	W77 39.104	Richardsville	Culpeper	2001 Data (Hg detected in fish tissue)
67	P-E24R	3-TOT005.11	Totuskey Creek near Rt. 3 bridge	1	N37 55.425	W76 43.227	Haynesville	Richmond	2001 Data (PCBs in Channel Catfish & Hg in tissue), Tingler Bull 583, 1990,(Be in sedi), p.M2-7,(Hg in sedi) M3-26
68	P-E25R	3-URB000.00	Urbanna Creek near Urbanna	1	N37 38.459	W76 34.064	Urbanna	Middlesex	2001 Data (Hg detected in fish tissue), Tingler Bull 583, 1990, (Hg & Cu in water & sedi) p.M3-26, M6-23
69	P-E23R	3-XDW000.80	Wilna Pond at Natl Wildlife Refuge	1	N38° 01.073'	W76° 53.473'	Champlain	Richmond	Spatial Distribution
		YORK RIVER BASIN							
70	V-F07L	8-NAR044.68	Lake Anna Near Nuclear Power Station	1	N38° 03.760'	W77° 46.908'	Lake Anna East	Louisa	PCBs in Tissue 2003 Data, Citizen's Request
71	V-F06L	8-NAR056.48	North Anna River near Rt. 522 - Lake Anna	1	N38° 06.592	W77° 54.830'	Mineral	Louisa	PCBs in Tissue 2003 Data, Citizen's Request
72	V-F07L	8-PMC002.13	Pamunkey Creek - Lake Anna Near State Par	1	N38° 07.627'	W77° 51.079'	Belmont	Spotsylvania	PCBs in Tissue 2003 Data, Citizen's Request
73	V-F07L	8-TRY001.33	Terry's Run arm of Lake Anna near Rt. 719	1	N38° 08.917'	W77° 53.629'	Lahore	Spotsylvania	PCBs in Tissue 2003 Data, Citizen's Request
74	V-F07R	8-TRY004.98	Terry's Run arm of Lake Anna near Rt. 629	1	N38° 11.207'	W77° 55.628'	Lahore	Orange	PCBs in Tissue 2003 Data, Citizen's Request
		SMALL COASTAL RIVER BASIN							
75	T-D06E	7-RAC000.00	Raccoon Creek	1	N37° 07.648'	W75° 57.120'	Townsend	Northampton	Special Request
		POTOMAC RIVER BASIN							
76	N-A26L	1APOW009.08	Lake Montclair (Powells Creek)	1	N38° 37.067'	W77° 21.326'	Quantico	Prince William	Citizen's Request
		BLACKWATER RIVER BASIN							
77	T-K36R	5ABLW000.65	Blackwater River near state line	1	N36° 33.150'	W76° 54.953'	Riverdale	Southampton	Hg in Tissue 2004 Data
78	T-K33R	5ABLW031.90	Blackwater River near Rt. 603	1	N36° 48.224'	W76° 51.754'	Zuni	Southampton	Hg in Tissue 2004 Data
79	P-K32R	5ABLW074.66	Blackwater River at Rt. 40	1	N37° 03.862'	W77° 03.531'	Waverly	Sussex / Surry	Hg Special Study Site
80	P-K31R	5ABKR002.33	Blackwater Swamp at Rt. 601	1	N37° 07.353'	W77° 11.147'	Disputanta South	Prince George	Spatial Distribution, Hg inquiry
81	P-K31R	5ABKR014.04	Blackwater Swamp at Rt. 106	1	N37° 13.103'	W77° 18.648'	Prince George	Prince George	Hg Special Study Site
82	P-K32R	5ACPP004.04	Crypress Swamp near Rt. 31	1	N37° 03.310'	W76° 55.212'	Dendron	Surry	Spatial Distribution, Hg inquiry
83	P-K32R	5ACPP007.86	Crypress Swamp near Rt. 630	1	N37° 06.570'	W76° 54.644'	Dendron	Surry	Spatial Distribution, Hg inquiry
84	P-K32R	5AJCH000.73	Johnchecohunk Swamp near Rt. 630	1	N37° 04.701'	W76° 55.486'	Dendron	Surry	Spatial Distribution, Hg inquiry
85	P-K35R	5ALTD005.10	Lightwood Swamp (Airfield Pond) near Rt. 628	1	N36° 54.514'	W77° 01.662'	Manry	Sussex	Spatial Distribution, Hg inquiry
86	P-K35R	5AMSW001.89	Mill Swamp near Rt. 621 bridge	1	N36° 59.437'	W76° 48.541'	Raynor	Southampton	Spatial Distribution, Hg inquiry
87	P-K35R	5AMSW006.77	Mill Swamp near Rt. 617 bridge	1	N37° 01.817'	W76° 49.710'	Runnymede	Surry	Spatial Distribution, Hg inquiry
88	P-K35R	5AMSW010.89	Mill Swamp near Rt. 626 bridge	1	N37° 04.546'	W76° 48.638'	Runnymede	Surry	Spatial Distribution, Hg inquiry
89	P-K32R	5AOTR005.69	Otterdam Swamp (Averys Pond) near Rt. 606	1	N37° 06.977'	W77° 5.594'	Waverly	Surry	Spatial Distribution, Hg inquiry

Table 3. 2006 Fish Tissue and Sediment Monitoring Stations Draft

Last Revised April 6, 2006

SITE #	WBID	RIVER MILE	STATION	PRIORITY	LAT	LONG	TOPO NAME	COUNTY	PROBLEM
90	P-K31R	5ASEC005.39	Second Swamp near Rt. 156 bridge	1	N37° 09.959'	W77° 16.445'	Prince George	Prince George	Spatial Distribution, Hg inquiry
91	P-K31R	5AWKS003.66	Warwick Swamp near Rt. 624 bridge	1	N37° 04.860'	W77° 11.110'	Disputanta South	Sussex	Spatial Distribution, Hg inquiry
92	P-K31R	5AWKS013.53	Warwick Swamp near Rt. 156 bridge	1	N37° 06.626'	W77° 19.410'	Templeton	Prince George	Spatial Distribution, Hg inquiry
		NOTTOWAY RIVER BASIN							
93	P-K30R	5ANTW003.30	Nottoway River near Rt. 258	1	N36° 34.018'	W76° 56.774'	Riverdale	Southampton	Hg in Tissue 2002 Data
94	P-K28R	5ANTW015.99	Nottoway River near Rt. 671	1	N36° 39.162'	W77° 00.198'	Courtland	Southampton	Spatial Distribution, Hg inquiry
95	P-K28R	5ANTW035.44	Nottoway River near Rt. 653 Careys bridge	1	N36° 46.089'	W77° 09.924'	Sebrell	Southampton	Spatial Distribution, Hg inquiry
96	P-K24R	5ANTW045.45	Nottoway River near Rt. 631 Peters bridge	1	N36° 51.532'	W77° 11.365'	Sebrell	Southampton	Spatial Distribution, Hg inquiry
97	P-K23R	5ANTW066.34	Nottoway Swamp near Rt. 637	1	N36° 59.782'	W77° 19.467'	Sussex	Sussex	Spatial Distribution, Hg inquiry
98	P-K19R	5ANTW075.48 5	Nottoway Swamp near Rt. 40 Stony Creek	1	N36° 56.507'	W77° 22.847'	Stony Creek	Sussex	Spatial Distribution, Hg inquiry
99	P-K19R	5ANTW077.95	Nottoway Swamp near I-95	1	N36° 53.948'	W77° 24.000'	Stony Creek	Sussex	Spatial Distribution, Hg inquiry
100	P-K19R	5ANTW091.70	Nottoway Swamp at Rt. 619	1	N36° 50.920'	W77° 33.830'	Purdy	Greensville	Hg in Tissue 2002 Data
101	P-K29R	5AASM013.36	Assamoosick Swamp near Rt. 622	1	N36° 54.432'	W77° 07.576'	Littleton	Sussex	Spatial Distribution, Hg inquiry

Fig. 1 2006 Roanoke River Basin Sample Sites (1"=14 miles)

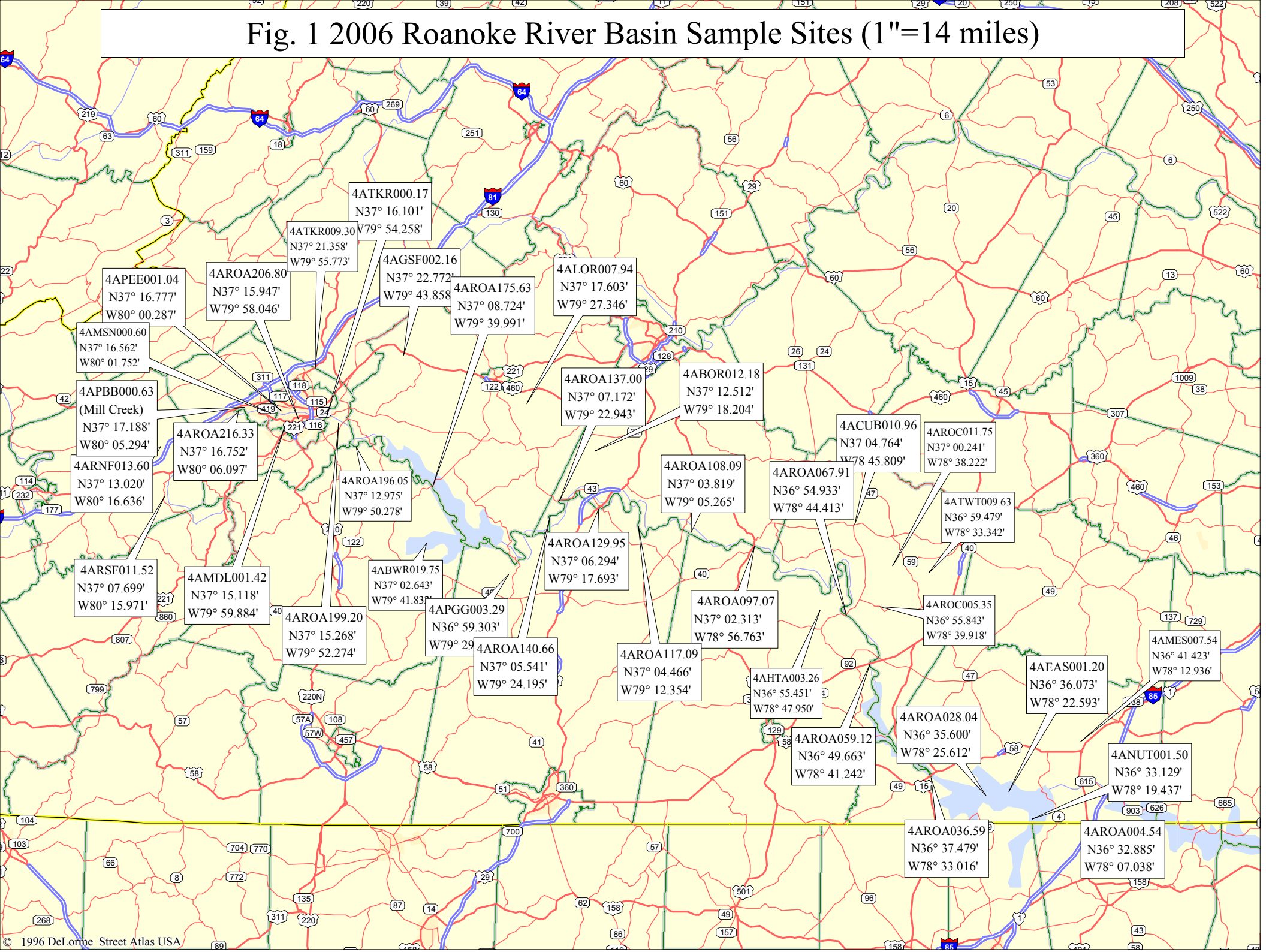


Fig 2. 2006 Rappahannock River Basin Sample Sites (1"=11 Miles)

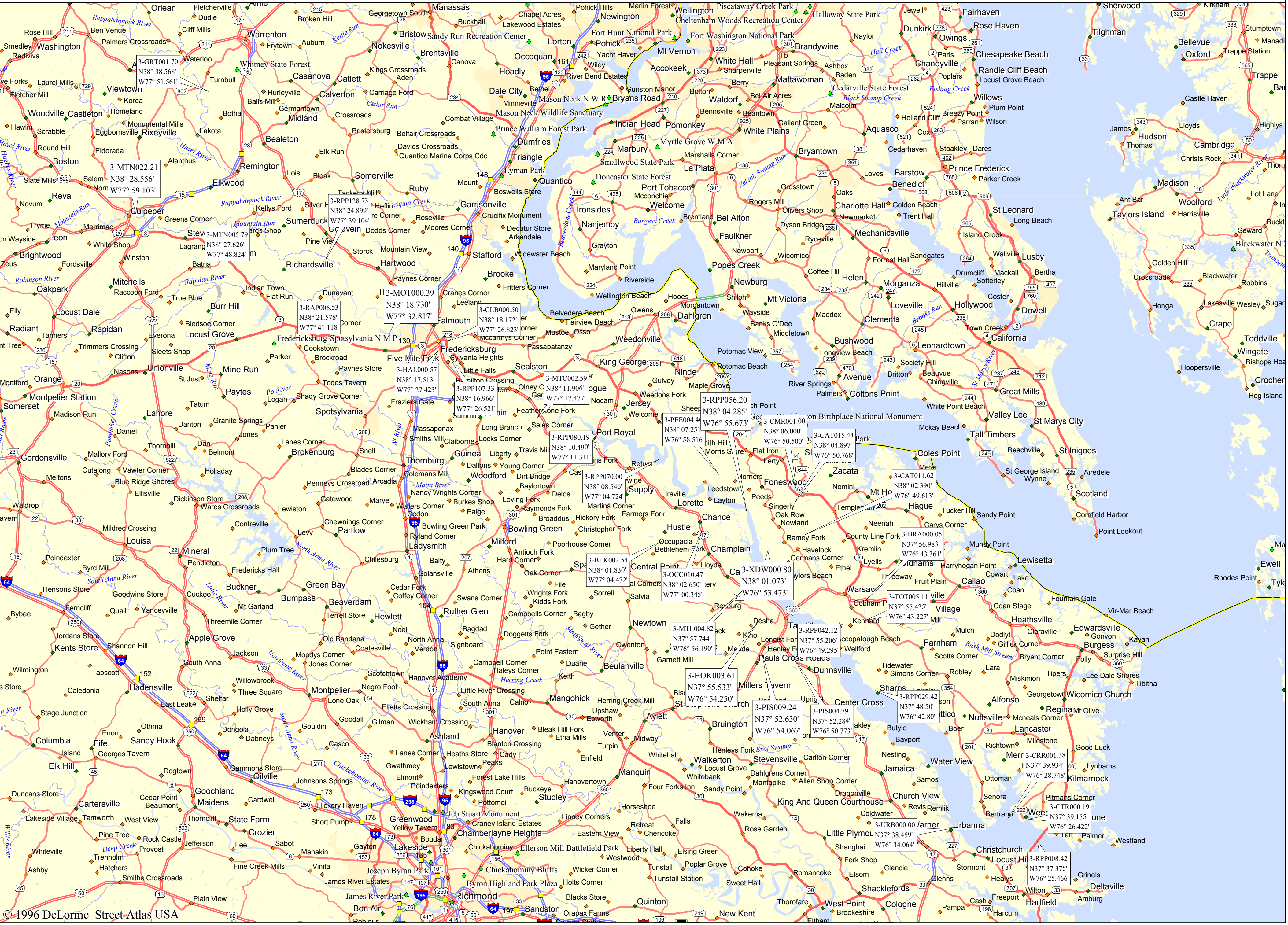


Fig. 3 2006 York River Sample Sites (1"=2.4 Miles)

g. 4 2006 Chesapeake Bay & Sm. Coastal Sample Sites (1"=0.25Mile

Fig. 5 2006 Potomac River Basin Sample Sites (1"=0.49Miles)

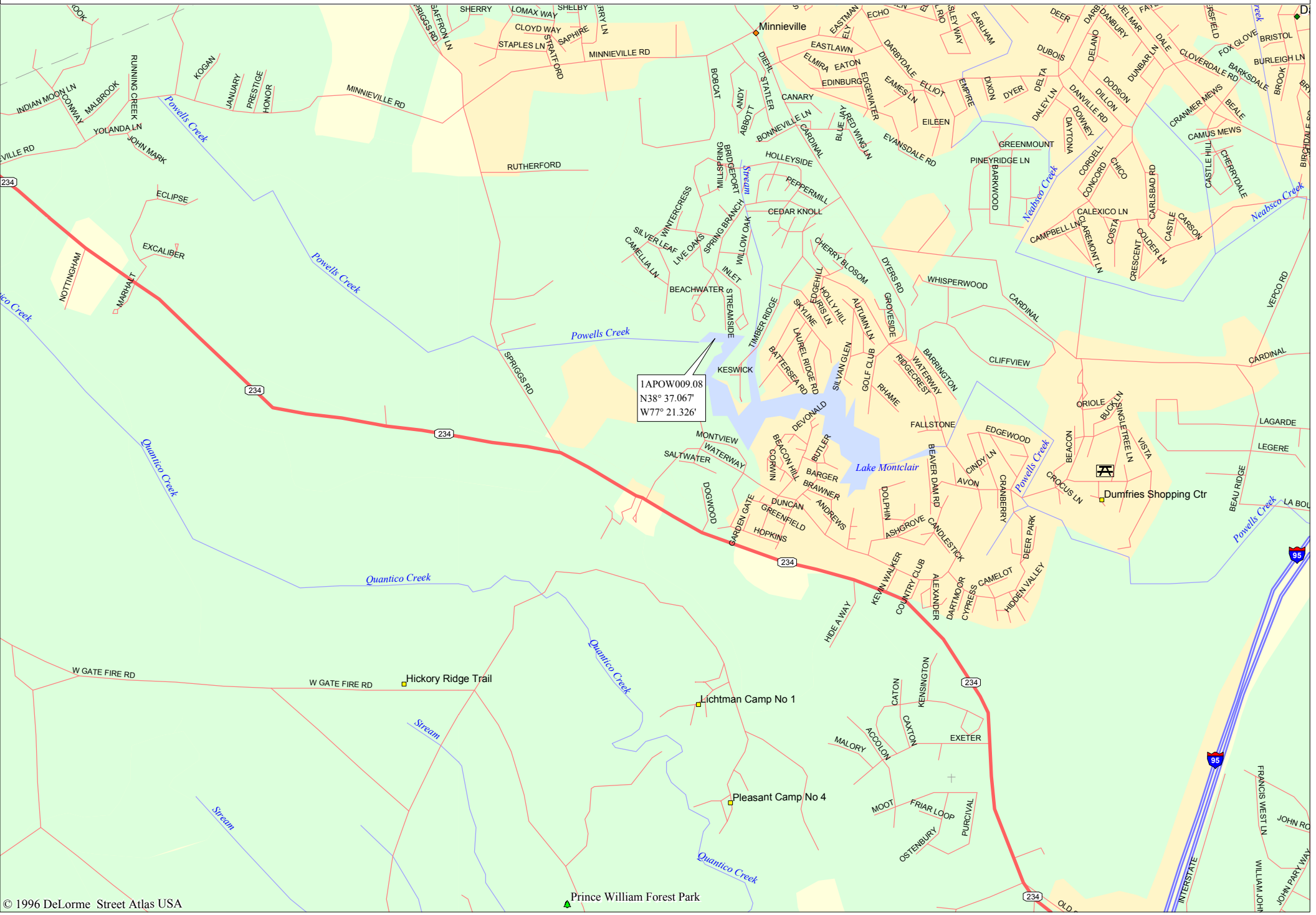


Fig 6 2006 Blackwater Sample Sites (1"= 7.9 Miles)

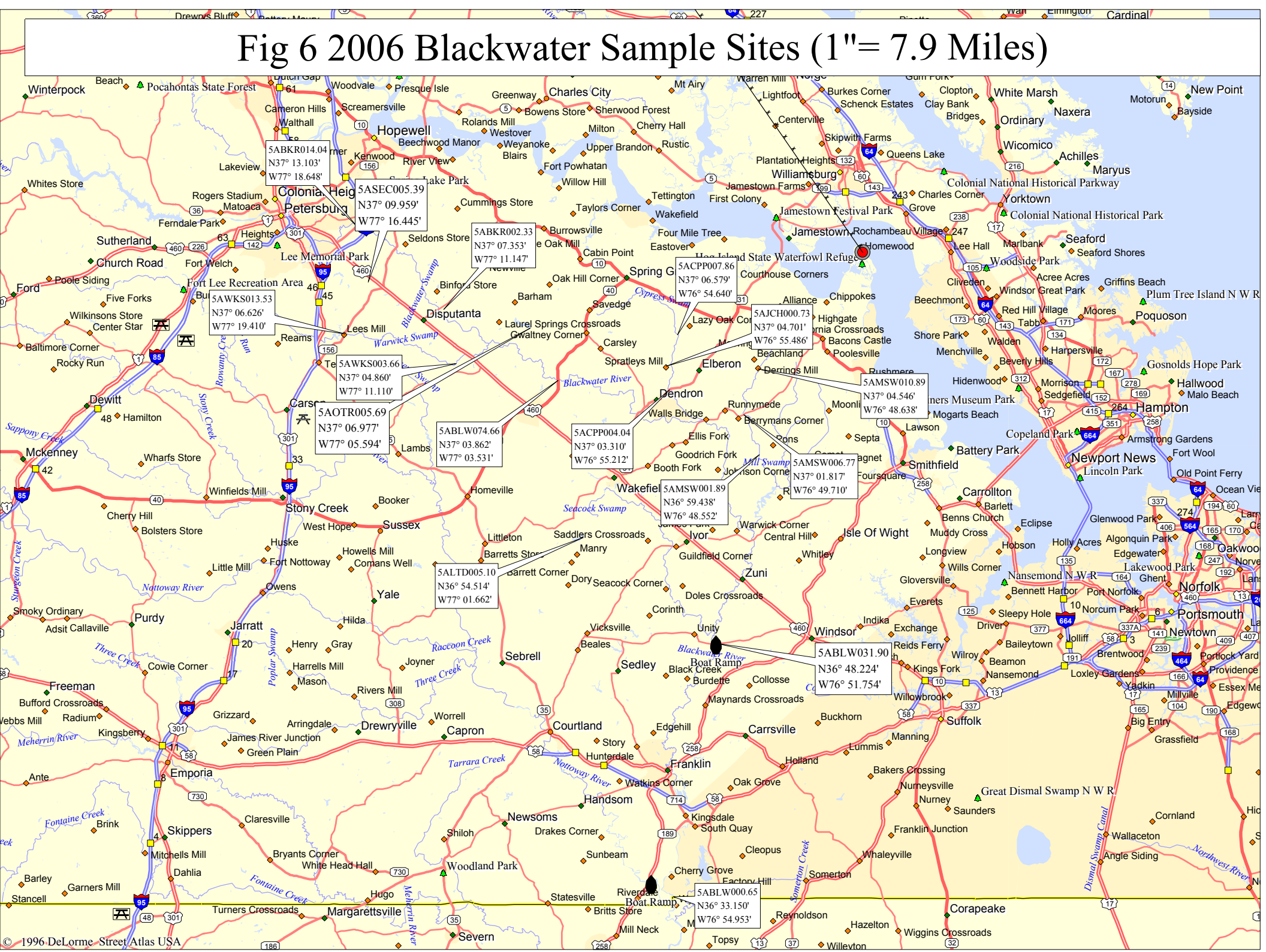
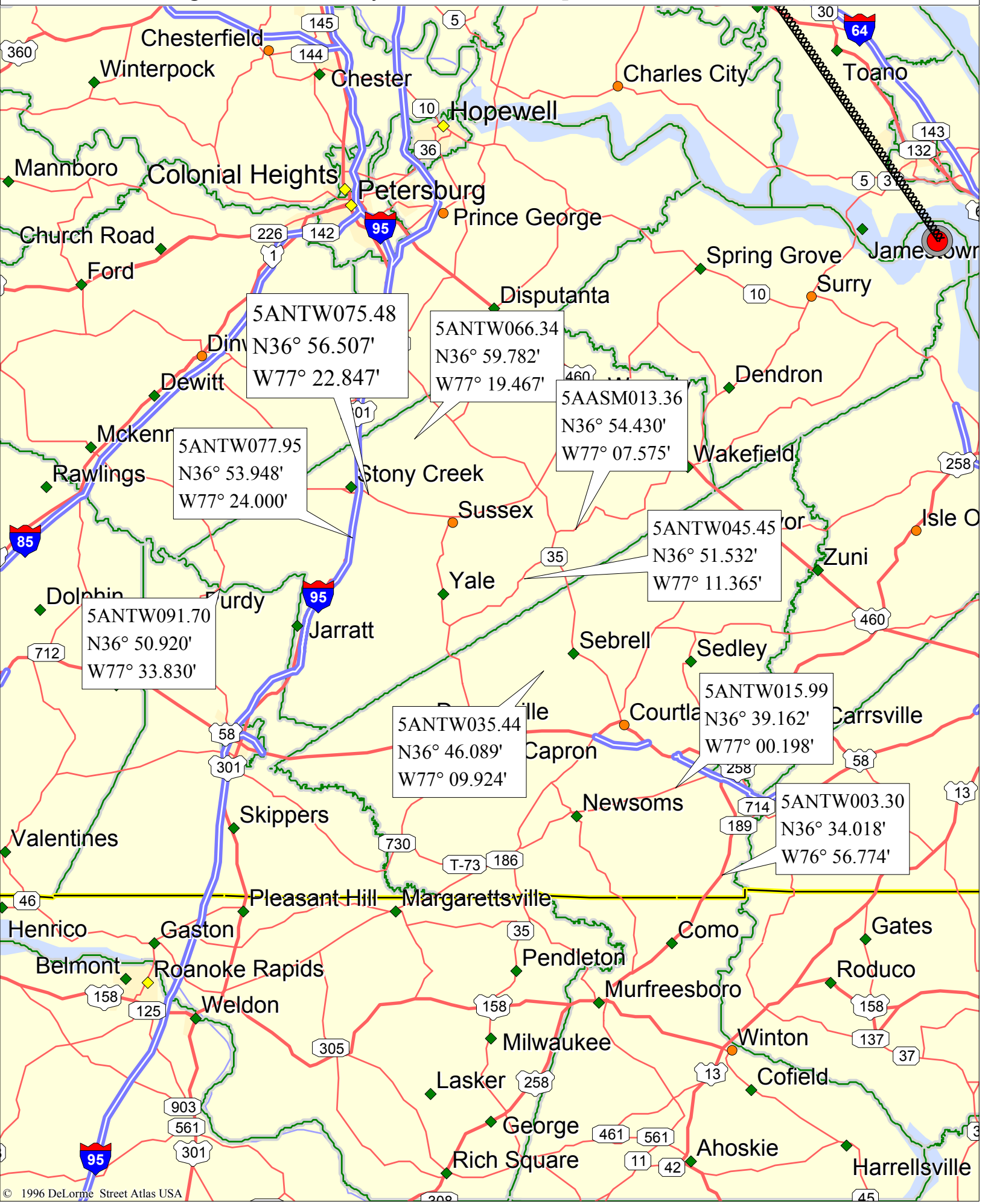


Fig 7 2006 Nottoway River Basin Sample Sites (1"= 7.9 Miles)



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